

Kreisel

March 17, 1978

Dr. G. Kreisel, F. R. S.
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Dear Kreisel,

You are indeed right in saying that the study of the origin of life needs a "lucky breakthrough". The problem is, how to discover one. One possibility concerns the behaviour of tRNA (see enclosed paper). If present day tRNA does indeed turn out to have two configurations, of the type required, then one might hope to produce protein synthesis in the test-tube with only "primitive" tRNA molecules (with amino acids attached) and a simple messenger RNA. Another hope is there might exist a (prebiotic) mineral with interesting catalytic properties, i. e. it might catalyse a random RNA synthesis or even RNA replication. A third possibility, but harder to explore, is that the first "enzymes" consisted of a folded RNA molecule to which a small peptide (e. g. a tripeptide) had adsorbed, the peptide doing the chemistry of the catalysis.

I have been considering writing a popular book about directed panspermia, since laymen can grasp the idea so easily. However, the last part of the book would follow the theme of your letter. Namely, that although the problem is an historical one, most of the evidence has disappeared, hypotheses which cannot be tested are not very satisfactory, etc. At the present, I am so involved in learning about the nervous system that anything else has to take second place.

I read your two reviews with pleasure, as always, though it is the general nature of the remarks which comes through rather than the precise content. For this reason the Wittgerstein one was easier than the Brouer one. You are incurably par^{er}athetical, but the footnotes help to reduce this to reasonable proportion.

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